The early stages of planet formation

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Glossary

Term	Description
AD	Ambipolar diffusion
AU	Astronomical Unit. The distance from the Earth to the Sun, 1.5×10^8 km.
Accretion (I)	The conversion of primordial material, *i.e.,* interstellar dust, to macroscopic objects: pebbles, rocks, planetesimals, and eventually planets.
Accretion (II)	The gravitational attraction of matter (mostly gas) onto a central, *e.g.,* stellar, object. A consequence of processes through which angular momentum is lost.
CAI	Ca-Al-rich inclusion. A relatively large particle ($\sim$mm-cm) found in chondrites that is enriched in the refractory elements of Ca and Al.
CCA	Cluster-cluster aggregation
Chondrite	An old meteorite consisting of material (mostly chondrules) that dates back from the birth of the solar system.
Chondrule	Solid particles composed mostly of olivine and pyroxene typically $\sim$300 μm in size. Chondrules often are the dominant constituent of chondrites.
Compound	The name given in chapter 4 for the objects that are obtained from the aggregation process which involves chondrules and (porous) dust.
DSMC	Direct simulation Monte Carlo
Debris disk	Gas-free or gas-poor disk, in which 'second-generation' dust is produced from a collisional cascade.

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Eddy	Part of a turbulent flow characterized by the same velocity structure. Phenomenologically, turbulence is the superposition of eddies of different scales.
IDP	Interplanetary dust particle
IR	Infra-red
ISM	Interstellar medium
Incremental accretion	The steady accumulation of small dust particles to form larger bodies.
MC	Monte Carlo
MMSN	Minimum Mass Solar Nebula
MRI	Magneto-Rotational Instability
Matrix	Predominantly silicate material that fills the spaces between chondrules in chondrites. The grain sizes of the matrix material are typically $\sim$1 μm but large variations exist.
Monodisperse	A distribution (of, *e.g.*, dust particles) that is composed of a single size.
Monomer	Smallest constituent particle (dust grain)
PCA	Particle cluster aggregation
Parent body	The body in which the meteorites were contained before its disintegration.
Planetesimal	A body large enough for its self-gravity to become important to capture or hold together smaller bodies. Typically $\gtrsim$km in size.
Protoplanetary disk	A flattened, gas-rich disk around a young star in which the planet formation process takes place.
RCP	Random Close Packing (filling factor $\approx$ 65%)
SED	Spectral energy distribution
Solar nebula	A synonym for protoplanetary disk, used mostly in relation to the young solar system.
T-Tauri star	A pre main-sequence star that obtains its energy mostly from gravitational contraction.
UV	Ultra-violet